

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Amend claims 1-5 and add new claim 6, as follows.

Listing of Claims:

1 1. **(Currently amended)** A method for performing multi-counter
2 evaluation of a text, said method comprising computer-implemented steps
3 of:
4 applying to the text a merged finite-state machine representing a
5 plurality of single-counter finite-state machines each representing a
6 different one of a plurality of counters and wherein at least one state of the
7 merged finite-state machine each corresponds to a multiplicity of states
8 each of a different one of said single-counter finite-state machines,
9 augmented with state value ~~lists,~~ lists where each state value list indicates
10 which counter of the multi-counter ~~scores receive~~ receives which values
11 value for the ~~state, and state of the merged finite-state machine;~~
12 ~~state scores are accumulated~~ accumulating the values of the states
13 of the merged finite-state machine separately for each counter of the
14 multi-counter, thereby producing a list of counter ~~scores~~ scores; and
15 updating each counter with its counter score.

1 2. **(Currently amended)** A method for performing multi-counter
2 evaluation of a text, said method comprising computer-implemented steps
3 of:
4 applying to the text a merged finite-state machine representing a
5 plurality of single-counter finite-state machines each representing a
6 different one of a plurality of counters and wherein at least one state of the
7 merged finite-state machine each corresponds to a multiplicity of states
8 each of a different one of said single-counter finite-state machines,

9 augmented with state value ~~lists~~, lists where each state value list indicates
10 which patterns in which counters of the multi-counter are found when the
11 state of the merged finite-state machine is entered ~~and~~;
12 producing a list of patterns ~~is produced~~ for each counter; and
13 updating each counter with its list of patterns.

1 3. **(Currently amended)** A method for constructing a multi-
2 counter finite-state machine augmented with state value lists, said method
3 comprising the computer-implemented steps of:
4 providing by computer an empty augmented finite-state machine
5 that has only a start state, with no transitions and no value list;
6 accumulating ~~each~~ by computer a finite-state machine of each
7 counter of the multi-counter that corresponds to one or more pattern-
8 amount pairs into the augmented finite-state machine to form a merged
9 machine representing a plurality of single-counter finite-state machines
10 each representing a different one of a plurality of counters and wherein at
11 least one state of the merged finite-state machine each corresponds to a
12 multiplicity of states each of a different one of said single-counter finite-
13 state machines, including
14 converting state values of states of the finite-state machines of the
15 counters of the multi-counter into state-value lists of states of the merged
16 machine, and
17 updating the merged machine with the state-value lists.

1 4. **(Currently amended)** The method of claim 3, wherein the step
2 of accumulating a finite-state machine of each counter of the multi-counter
3 that corresponds to one or more pattern-amount pairs into the augmented
4 finite-state machine to form a merged machine ~~further comprises the~~
5 computer-implemented steps of:

6 forming states for the merged machine that correspond to pairs of
7 states that can be reached by starting the finite-state machine of a counter
8 of the multi-counter and the augmented finite-state machine in ~~the~~ their
9 start states and applying the ~~machines~~ finite-state machine of the counter
10 and the augmented finite-state machine to a text in unison, with ~~each~~ the
11 finite-state machine of the counter and the augmented finite-state machine
12 advancing through each text character simultaneously;

13 forming states for the merged machine that correspond to one of
14 the finite-state machine of the counter and the augmented finite-state
15 machine having halted while ~~the other~~ another of the finite-state machine
16 of the counter and the augmented finite-state machine continues to
17 advance through the text;

18 for each merged machine state, if there is a corresponding state of
19 the augmented finite-state machine ~~state~~ of the counter and it has a value
20 list, then copying the value list to form the value list for the ~~new~~ merged
21 machine state;

22 for each merged machine state, if there is a corresponding state of
23 the finite-state machine of the counter ~~state~~, it has ~~value~~ a value, and the
24 merged machine state has no value list, then forming a new empty value
25 list for the merged machine state;

26 for each merged machine state, if there is ~~a~~ the corresponding state
27 of the finite-state machine of the counter ~~state~~ and it has ~~value~~ a value,
28 then adding a reference to the counter corresponding to the finite-state
29 machine and the ~~value~~ value, to the value list for the merged machine
30 state;

31 for each merged machine state with a corresponding first state of
32 the augmented finite-state machine ~~state~~ and a corresponding second
33 state of the finite-state machine ~~state~~ of the counter, for each character in
34 transitions from both the first and the second states, forming a transition
35 for from the merged machine state, with destination of the transition being

36 a state of the merged machine ~~state~~ corresponding to the states of the
37 augmented finite-state machine and the finite-state machine of the counter
38 that are the destinations of the transitions from the first and the second
39 states;

40 for each merged machine state with a corresponding third state of
41 the augmented finite-state machine ~~state~~ and a corresponding fourth state
42 of the finite-state machine ~~state~~, of the counter, for each character in a
43 transition from only one of the third and the fourth ~~corresponding~~ states,
44 forming a transition ~~for~~ from the merged machine state, with destination of
45 the transition being a state of the merged machine ~~state~~ corresponding to
46 the state of the augmented finite-state machine or the finite-state machine
47 of the counter that is the destination of the transition from the third or the
48 fourth state and the machine without the transition from the third or the
49 fourth state having halted; and

50 for each merged machine state with a corresponding fifth state of
51 the augmented finite-state machine ~~state~~ or a corresponding sixth state of
52 the finite-state machine ~~state~~ of the counter but not both, for each
53 character in a transition from the fifth or the sixth ~~corresponding~~ state,
54 forming a transition ~~for~~ from the merged machine ~~state~~, with destination of
55 the transition being a state of the merged machine state corresponding to
56 the state of the augmented finite-state machine or the finite-state machine
57 of the counter that is the destination of the transition from the fifth or the
58 sixth state and the machine without the transition from the fifth or the sixth
59 state having halted.

1 5. **(Currently amended)** A method for adding a pattern that
2 consists of a single sequence of characters and a corresponding pattern
3 ~~value~~-value, from a counter to an augmented finite-state machine, said
4 method comprising ~~the~~ computer-implemented steps of:
5 providing a ~~pattern~~ the pattern;

6 providing ~~a corresponding~~ the corresponding pattern value;
7 providing ~~an~~ the augmented finite-state machine having a plurality
8 of machine states and representing a plurality of single-counter finite-state
9 machines each representing a different one of a plurality of counters and
10 wherein at least one state of the augmented finite-state machine each
11 corresponds to a multiplicity of states each of a different one of said
12 single-counter finite-state machines;
13 advancing through the machine states ~~as~~ by applying the machine
14 to the sequence of characters as a text;
15 if the machine would halt when applied to the sequence of
16 characters as a text, then adding states and transitions to the machine to
17 prevent halting;
18 forbearing from the adding if the machine would not halt when
19 applied to the sequence of characters as a text;
20 for ~~the~~ a final state that would be reached by the machine
21 supplemented with the added states and transitions, forming a state value
22 list if the final state lacks ~~one~~ a state value list, forbearing from forming a
23 state value list if the final state has a state value list, and adding to the
24 state value list a reference to the counter and the pattern value; and
25 updating the final state of the machine with the state value list.

1 6. **(New)** A method for constructing a multi-counter finite-state
2 machine augmented with state value lists, said method comprising the
3 computer-implemented steps of:
4 providing by computer an empty augmented finite-state machine
5 that has only a start state, with no transitions and no value list;
6 accumulating by computer a finite-state machine of each counter of
7 the multi-counter that corresponds to one or more pattern-amount pairs
8 into the augmented finite-state machine to form a merged machine,
9 including

10 forming states for the merged machine that correspond to pairs of
11 states that can be reached by starting the finite-state machine of a counter
12 of the multi-counter and the augmented finite-state machine in their start
13 states and applying the finite-state machine of the counter and the
14 augmented finite-state machine to a text in unison, with the finite-state
15 machine of the counter and the augmented finite-state machine advancing
16 through each text character simultaneously;

17 forming states for the merged machine that correspond to one of
18 the finite-state machine of the counter and the augmented finite-state
19 machine having halted while another of the finite-state machine of the
20 counter and the augmented finite-state machine continues to advance
21 through the text;

22 for each merged machine state, if there is a corresponding state of
23 the augmented finite-state machine of the counter and it has a value list,
24 then copying the value list to form the value list for the merged machine
25 state;

26 for each merged machine state, if there is a corresponding state of
27 the finite-state machine of the counter, it has a value, and the merged
28 machine state has no value list, then forming a new empty value list for
29 the merged machine state;

30 for each merged machine state, if there is the corresponding state
31 of the finite-state machine of the counter and it has a value, then adding a
32 reference to the counter corresponding to the finite-state machine and the
33 value, to the value list for the merged machine state;

34 for each merged machine state with a corresponding first state of
35 the augmented finite-state machine and a corresponding second state of
36 the finite-state machine of the counter, for each character in transitions
37 from both the first and the second states, forming a transition from the
38 merged machine state, with destination of the transition being a state of
39 the merged machine corresponding to the states of the augmented finite-

40 state machine and the finite-state machine of the counter that are the
41 destinations of the transitions from the first and the second states;
42 for each merged machine state with a corresponding third state of
43 the augmented finite-state machine and a corresponding fourth state of
44 the finite-state machine, of the counter, for each character in a transition
45 from only one of the third and the fourth states, forming a transition from
46 the merged machine state, with destination of the transition being a state
47 of the merged machine corresponding to the state of the augmented finite-
48 state machine or the finite-state machine of the counter that is the
49 destination of the transition from the third or the fourth state and the
50 machine without the transition from the third or the fourth state having
51 halted; and
52 for each merged machine state with a corresponding fifth state of
53 the augmented finite-state machine or a corresponding sixth state of the
54 finite-state machine of the counter but not both, for each character in a
55 transition from the fifth or the sixth state, forming a transition from the
56 merged machine state, with destination of the transition being a state of
57 the merged machine corresponding to the state of the augmented finite-
58 state machine or the finite-state machine of the counter that is the
59 destination of the transition from the fifth or the sixth state and the
60 machine without the transition from the fifth or the sixth state having
61 halted.